

FINK, L.M.; KOTOV, V.S.

Two methods for the reception of binary frequency telegraphy signals. Radiotekhnika 19 no.2:13-16 F '64.

(MIRA 17:6)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni A.S. Popova.

KOTOV, V.S.

Chemical composition and zoning of underground waters in the  
Azov-Kuban oil- and gas-bearing region. Trudy KZ VNII no.2:  
90-96 '59. (MIRA 13:11)  
(Azov-Kuban region--Water, Underground)

KOTOV, V.S.; STUDENIKINA, M.V.

Dispersed organic matter Neogene rocks in the western Kuban.

Trudy KF VNII no.3:180-189 '60.

(MIRA 13:11)

(Kuban--Organic matter)

ZERNYSHKO, T.A.; KOTOV, V.S.; KUDRYAVTSEVA, Ye.S.

Petroleum in Miocene fields of the western Kuban. Trudy KF VNII  
no.3:201-208 '60. (MIRA 13:11)

(Kuban Lowland--Petroleum--Analysis)

YEGOYAN, V.L.; ZHABREV, I.P.; KOTOV, V.S.; ROSTOVTSSEV, K.O.

Characteristics of the distribution of gas and oil pools in  
Mesozoic sediments of western Ciscaucasia. Geol. nefti i  
gaza 6 no.7; 20-24 JI '62. (MIRA 15:6)

1. Krasnodarskiy filial Vsesoyuznogo nauchno-issledovatel'skogo  
neftegazovogo instituta.

(Caucasus, Northern—Petroleum geology)

(Caucasus, Northern—Gas, Natural—Geology)

KOTOV, V.S.; MATVIYENKO, V.N.

Water drive system of Mesozoic gas-condensate fields  
in western Ciscaucasia. Trudy KF VNII no.10:213-220  
'62. (MIRA 15:11)  
(Caucasus, Northern—Condensate oil wells)

KOTOV, V.S.; MITIN, N. Ye.

Oil and gas pools in contact with fresh waters. Neftegaz,  
geol. i geofiz. no.11:14-16'63 (MIRA 1757)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno -  
issledovatel'skogo instituta.

KOTOV, V. T.

Bolezni sviney, protekayushchiye s priznakami porazheniya nervnoy sistemy  
(Diseases of Swine, Which Proceed with Symptoms of a Disease of the Nervous System).  
Voronezh. 1950. 28 pages.

U-5235



KOTOV, V.T., Lecturer  
Voronezh Scientific Research Veterinary Experimental Station  
"Specific prophylaxis of pseudo-rabies"  
SD: Veterinariya 27 (7), 1950, p. 22

KOTOV, V.P., doktor veterinarnykh nauk.

Swine erysipelas and basic problems in general and special preventive measures. Dokl.Akad.sel'khoz. 21 no.11:29-35 '56.  
(MLBA 9:12)

1. Voronezhskiy sooveterinarnyy institut.  
(Erysipeloid)

KOTOV V. T.

Vaccine for bacillar erysipelas in swine. V. T. Kotov  
U.S.S.R. 106,321, July 25, 1967. A laboratory strain of  
erysipelas bacteria is passed through rabbits until a weakly  
virulent and immunizing strain is obtained. This is grown  
for 1-3 days at 36-37° on a meat-peptone broth of pH 7.4-  
7.5 to which is added 0.078% agar-agar and preserved by  
addn. of 10% glycerol of 80% purity. The vaccine is in-  
jected intramuscularly. M. Horsch

KOTOV, V. T., GERMAN, I. S. and ARTEMOV, B. T.

"Circular ~~ppp~~ probe with blood serum for brucellosis diagnostics."

Veterinariya Vol. 37, No. 3, 1960, p. 84

*Kotov - Professor  
Voronezh Zootech - Veterinary Inst.*

KOTOV, V.T., prof.; GERMAN, L.S., assistant; ARTEMOV, V.T., assistant

Ring test with blood serum for diagnosing brucellosis. Veterinariia  
37 no.3:84-86 Mr '60. (MIRA 16:6)

1. Voronezhskiy zootekhnicheskoy-veterinarnyy institut.  
(Brucellosis)

LIKHACHEV, N.V., prof.; AGRINSKIY, N.I., prof.; SYURIN, V.N., prof.;  
SPESIVTSEVA, N.A., prof.; KOLOBOLOTSKIY, G.V., prof.;  
ZOLOTAREV, N.A., prof.; KORYAZHNOV, V.P., prof.; KOLESOV,  
S.G., prof.; BABICH, M.A., prof.; PETROV, A.M., prof.; ZOTOV,  
A.P., prof.; DOROFYEV, K.A., prof.; POLYKOVSKIY, M.D., prof.;  
SOLOMKIN, P.S., prof.; ORLOV, Ye.S., prof.; KOTOV, V.T., prof.;  
TRILENKO, P.A., prof.; LYUBASHENKO, S.Ye., prof.; USACHEVA,  
I.G., red.; YARNYKH, A.M., red.; BALLOD, A.I., tekhn. red.

[Veterinary laboratory practice]-Veterinarnaya laboratornaya  
praktika. Moskva, Sel'khozizdat. Vol. [General microbiological  
methods of investigation] Obshchie mikrobiologicheskie metody is-  
sledovaniya. 1963. 566 p. Vol.2. [Biochemical, chemico-  
toxicological, and veterinary hygienic methods of investigation]  
Biokhimicheskie, khimiko-toksikologicheskie i zoogigienicheskie  
metody issledovaniya. 1963. 431 p. (MIRA 16:8)

(Veterinary laboratories)

KOTOV, V.T., prof.; NOVAK, D.D., dotsent

Methods of the elimination of tuberculosis in cattle on the  
farms of Voronezh Province. Veterinariia 40 no.10:17-18 0'63.  
(MIRA 17:5)

1. Voronezhskiy sel'skokhozyaystvennyy institut.

KOTOV, V.T., doktor veterin. nauk

Specific prophylaxis of brucellosis in cattle. Veterinariia 41  
no.2:40-44 F '64. (MIRA 17:12)

1. Voronezhskiy sel'skokhozyaystvennyy institut.



L 41215-66 ENT(m)/ENP(j)/T IJP(c) RM

ACC NR: AR6015911

(A)

SOURCE CODE: UR/0081/65/000/022/S027/S027

AUTHOR: Titov, A. P.; Kotov, V. V.; Golod, A. Ye.; Travnikova, N. I.

28  
B

TITLE: Effect of the nature of the emulsifier on the structure of the polymer

SOURCE: Ref. zh. Khimiya, Abs. 2.S159

REF SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 3, 1964, 112-115

TOPIC TAGS: emulsion polymerization, isoprene

ABSTRACT: A study was made of the effect of the nature of the emulsifier on the ratio of 1,4-cis-, 1,4-trans-, 1,2-, and 3,4-linkages in isoprene polymers prepared by emulsion polymerization by a standard method at 5° and a pH of the aqueous phase from 2 to 10 in the presence of K soap of SKZh, Nekal, OP-10, or esteramine sulfate. The conversion reached 7-29% in the various experiments. It is shown that the content of linkages of different configurations in the polymer is practically independent of the conversion, changes only slightly with the pH of the aqueous phase, and very appreciably from one emulsifier to another. A difference in the mechanisms of polymerization was observed when ionogenic and nonionogenic emulsifiers were employed. V. Kopylov. [Translation of abstract]

SUB CODE: 07,11

Card 1/1 MLP

(N) L 12869-66 ENT(m)/ENP(w)/ENA(d)/ENP(v)/T/ENP(t)/ENP(k)/ENP(z)/  
 ACC NR: AP6000618 ENP(b)/ENA(c) SOURCE CODE: UR/0135/65/000/012/0032/0038  
 MJW/JG/HM/HW  
 AUTHOR: Kotov, V. V. (Engineer)  
 ORG: Northern Donets Affiliate of NIIKhIMMASH (Severo-donetskiy filial NIIKhIMMASH)  
 TITLE: Arc welding of high pressure tube made from 20Kh3MVA and 20Kh3MVF steels  
 SOURCE: Svarochnoye proizvodstvo, no. 12, 1965, 32-34  
 TOPIC TAGS: arc welding, heat resistant steel, high strength steel, welding electrode

ABSTRACT: The tubes were arc welded with three types of electrodes with varying Cr and V content. The 20Kh3MVA and 20Kh3MVF steels were designed (for the chemical industry) to withstand pressures up to 700 atm and temperatures to 510°C. Their chemical composition: 20Kh3MVF steel--%C = 0.16 to 0.24, %Si = less than 0.4, %Mn = 0.25 to 0.60, %Cr = 2.7 to 3.0, %Ni = less than 0.5, %V = 0.75 to 0.85, %W = 0.30 to 0.50 and %Mo = 0.35 to 0.55; 20Kh3MVA steel--the same except for no Ni or W, and slightly lower V and Mo. Tensile properties are similar for the two steels (Brinell hardness of 240 to 280). The electrodes were graded according to the quality of the proximity of the chemical and mechanical properties of the welded zone to the original base metal. Three standard electrodes (Tsl-17, Kh3M and VI-10-6) were used in the study. A table gives the chemical composition and the mechanical properties of the weld region for the electrodes. Mechanical properties are given for the tempered condition (fur-

Card 1/2

UDC: 621.791.75:621.774.669.15-194

L 12869-66

ACC NR: AP6000618

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825410020-9

nace and local tempering). The experiments were performed on tubes having the dimensions 24 x 6 and 127 x 21 mm. The edges were machined to a mouth angle of 60° to increase penetration. The welding electrodes had diameters of 3, 4 and 5 mm, and the welding current was 110-130 amp, 140-180 amp and 180-200 amp for each of the respective diameters. One set of welded tubes was heated in a furnace (680-710°C for 2.5 hr), while a second set was subjected to local heat treatment (700-720°C; 35-40 min). The illustration of the apparatus for local heat treatment shows a close-up of the burner and an external view of the heating arrangement. While the various heat treating methods had approximately the same effect on the mechanical properties of the welded tubes, significant differences were noted for the various grades of electrodes. The best electrode for the intended purpose was found to be Tsl-17, while VI-10-6 was not recommended at all. Orig. art. has: 3 figures, 3 tables.

SUB CODE: 11/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2

HW

GAGEN-TURN, K.V.; KOTOV, V.V.; MATVEYEV, Yu.<sup>A</sup>.

Technology of pressure working of a welded pipe blank. Trudy  
Giprotavmetmashinostroitelstva no.24:223-235 '65. (MIR 18:11)

GAGEN-TORN, K.V.; KOTOV, V.V.; Prinimali uchastiye: LEVIN, Z.G.;  
TSVAYGEL', L.D.

Requirements of industrial emulsions for brass pipe and rod  
drawing. Trudy Giprotsvetmetobrabotka no.24:264-268 '65.  
(MIRA 18:11)

KOTOV, V.V.; Prinimala uchastiye TSVAYGEL', L.D.

Methods of determining and removing internal stresses  
in brass (L62) rectangular cross-section pipe. Trudy  
Giprotvetmetobrabotka no.24:236-241 '65. (MIRA 18:11)

KOTOV, V.V.

Pneumatic method of measuring the inside dimensions of  
rectangular pipe. Trudy Giprotstvotmetobrabotka no.24:  
242-246 '65. (MIRA 18:11)

KOTOV, V.V.

Adjustment of traverses by the method of equal corrections. Geod. i  
kart. no. 11:25-27 N 63. (MIRA 17:1)

KOTOV, V.V.

Separate adjustment of polygonometric nets by the method of  
equal corrections. Geod. i kart. no.6:23-26 Je '64.  
(MIRA 17:9)



26042

S/137/61/000/007/057/072

A060/A101

1.2300 1573

AUTHOR: Kotov, V. V.

TITLE: Introduction of automatic resistance butt welding of thick-walled high-pressure pipes into industry

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 43, abstract 7E304  
(In the collection: "1-ya Sibirsk. konferentsiya po svarke, 1959".  
Barnaul, 1959 (1960), 254-256)

TEXT: The research carried out at the Irkutsk branch of Giproneftemash is described. The utilization of resistance butt welding of thick-walled pipes of 42-229 mm diameter operating at 700 atm and 570°C in corrosive media is described. Welding is carried out on machines with a capacity of 160, 320, and 500 kva and set pressure of 65, 25 and 100 tons. Welding techniques are worked out for the track of a 200-ton gantry crane. Research is being carried out on the building up of coupling rods of compressor installations. The problems for further investigation are enumerated. X

Ye. Terpugov

[Abstracter's note: Complete translation]

Card 1/1



KOTOV, V. V.

30V/5134

PHASE I BOOK EXPLOITATION

Moscow, Inzhenerno-fizicheskiy Institut

Moskovi: atomnik statyi (Accelerators: Collection of Articles)  
Moscow, Atomizdat, 1960. 163 p. Errata slip inserted. 3,600  
copies printed.

Sponsoring Agency: Ministerstvo Vysshago i srednego spetsial'nogo  
obrazovaniya RSFSR.

Ed. (title page): G. A. Tsaganov, Doctor of Technical Sciences,  
Professor; Tech. Ed.: S. M. Popova.

CONTENTS: The book contains articles by staff members of the De-  
partment of Electrophysical Installations of the VNIPI (Moscow Engi-  
neering Physics Institute) reflecting theoretical and experimental  
investigations of linear electron accelerators, betatrons and  
synchrotrons; one article deals with ion sources for cyclotrons.  
The theoretical papers on linear electron accelerators are a  
continuation of a similar research paper published in the col-  
lection of articles "Lineynyye uskoriteli" (NIPI edition, 1959)  
on the dynamics of particles in these machines. The theoretical  
papers on particle trapping for acceleration conditions in  
betatrons and synchrotrons contain a mathematical solution of  
this problem which takes into account the nonlinear properties of  
of particles in the beam and the beam's collective interaction  
beam at the resonant and near-resonant conditions. A number of experimental  
investigations of electron beams in the linear accelerators and  
betatrons with measurements at the and with electron  
accelerators and betatron components, while a special study is con-  
cerned with the linear cyclic accelerator ("elutron") proposed a  
few years ago by one of the coauthors of the articles in question.  
No personalities are mentioned. References accompany most of the  
articles.

TABLE OF CONTENTS:

Zabory, A. I. Investigation of Radial Electron Oscilla- tions in a Betatron During the Injection Period, Taking Into Account Their Interaction	105
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Bobinin, B. P. New Method of Connecting a Phasometer Circuit With a Septate Waveguide	136
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Mastukova, A. I., I. I. Afanas'ev, and L. M. Mikhailov. Mass-Spectrometer Installation for the Investigation of Ion Sources	149
Kuznetsov, V. V., A. A. Valigin, V. V. Kotov, and V. M. Chumakov. Research on Electron Motion in the Magnetic System of the "Elutron" Taking Into Account Stray Fields	153

AVAILABLE: Library of Congress

3P/ova/oa  
5/12/61

Card 5/5

SHAKHALOV, P.P.; KOTOV, V.V., redaktor; TROFIMOV, A.V., tekhnicheskiy redaktor

[Calculation and distribution of petroleum products] Uchet i  
otpusk nefteproduktov [Leningrad] Gostekhnizdat, 1946. 190 p.  
[Microfilm] (MLRA 9:7)  
(Petroleum products)

GERSHTEYN, A.K., inzh.; KOTOV, V.V., inzh.; SHASHKOV, I.P., inzh.

Mobile unit for the production of keramzit. Stroi. i dor. mash. 7  
no.7:32-34 Jl '62. (MIRA 15:7)  
(Omsk Province--Keramzit)

KOTOV, V.V., starshiy prepodavatel'

Using corrections in the length of lines and bearing angles to  
calculate corrections for departures of coordinates from traverses.  
Izv.vys.ucheb.zav.; geod.i aerof. no.4:89-95 '62.

(MIRA 16:2)

1. Krasnoyarskiy politekhnicheskiy institut.  
(Traverses (Surveying))

KOTOV, V.V., starshiy prepodavatel'

Simplified method of assessing the accuracy of traverses.

Izv. vys. ucheb. zav.; geod. i aerof. no.4:105-116 '63.

(MIRA 17:9)

1. Krasnoyarskiy politekhnicheskii institut.

ACCESSION NR: AP4038910

8/0138/64/000/005/0055/0056

AUTHORS: Filinov, G. P.; Sukhomlinov, V. B.; Kotov, V. V.

TITLE: Pyrolytic method for determining carbon black and ash in carbon black filled butadiene-styrene rubber and rubber compounds on its base

SOURCE: Kauchuk i rezina, no. 5, 1964, 55-56

TOPIC TAGS: pyrolytic carbon black analysis, pyrolytic filled rubber analysis, stepwise rubber ashing, carbon dioxide combustion, butadiene styrene rubber combustion, carbon black KhAF

ABSTRACT: About 0.5 gm of finely cut rubber compound were placed in a combustion boat and subjected to pyrolysis in a quartz tube at 550-560C in a current of carbon dioxide. After an 18-20 minute pyrolysis period for freshly prepared rubber mixtures or a 28-30 minute period for rubber compounds, the boat was placed in a desiccator and weighed. The next step consisted of running the same samples at the same temperature in a current of air. This process was completed in 20-25 minutes and was followed by weighing the residue. The loss in weight during the second step

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ACCESSION NR: AP4038910

was assumed to represent the weight of carbon black. Experiments with a freshly prepared butadiene-styrene rubber mixture containing KhAF carbon black (and with standard and protector types of rubber compounds containing the same carbon black filler) yielded by this technique amounts with an average error of 1% as compared with the actual carbon black content. The determination of carbon black by this method required 35 to 40 minutes for freshly prepared mixes and 55 to 60 minutes for rubber compounds. Orig. art. has: 1 chart and 1 table.

ASSOCIATION: Voronezhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta sinteticheskogo kauchuka im. S. V. Lebedeva (Voronezh Branch of the All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 00

DATE ACQ: 05Jun64

ENCL: 00

SUB CODE: MT

NO REF SOV: 001

OTHER: 000

Card 2/2



L 54625-65

ERI(a)/BPP(c)/ENP(f) - PC-4/Pr-4 RM

ACCESSION NR: AP5017442

UR/0138/64/000/010/0020/0024

AUTHOR: Titov, A. P.; Filinov, G. P.; Kotov, V. V.

TITLE: Coagulation of butadiene-styrene latexes containing carboxylic acid soaps

SOURCE: Kauchuk i rezina, no. 10, 1964, 20-24

TOPIC TAGS: rubber, butadiene, polystyrene, carboxylic acid, soap

ABSTRACT: The influence of pH, nature of the anion and cation of the soap, oil-filler and method of its introduction, as well as the plasticity of the polymer on the process of coagulation of butadiene-styrene latexes and the composition of the rubber was studied. The polymerisation temperature was 50°C, degree of polymerisation 60%; the process was stopped with sodium dimethyldithiocarbamate (0.5 parts by weight); the latex obtained was set with a suspension of neosone D (two parts by weight). The nature of the anion and cation of the soaps and pH of the medium exerted a great influence

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L 54625-69

ACCESSION NR: AP5017442

on the process of coagulation, content of bound and free organic acids in the rubber, as well as the loss of the emulsifier. The content of bound acids in the rubber varied in the series: fatty acid soap, mixture of soaps of rosin and fatty acids, rosin soap, increasing in this sequence in acid medium and decreasing in alkaline medium. When sodium soaps of fatty acids and their mixtures with the sodium soap of rosin were used, the content of bound acids in the rubber was lower than when potassium soaps were used.

Losses of the soap increased upon passage from the rosin soap to the mixture of soaps of colophony and fatty acids, and further to fatty acid soaps. For sodium soaps of fatty acids and their mixtures with the sodium soap of rosin, the losses were greater than for potassium soaps. In all cases the amount of residual soap in the rubber and losses of the emulsifier were considerably lower in coagulation in acid medium than in coagulation in alkaline medium. Orig. art. has 6 graphs, 2 tables.

Card 2/3

L 54615-65

ACCESSION NR: AP5017442

ASSOCIATION: Voronezhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo  
instituta sinteticheskogo kachestva im. S. V. Lebedeva (Voronezh Affiliate of the  
All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 00

WCL: 00

SUB CODE: NT, GO

NR REF 804: 002

OTHER: 002

JPRS

Card 3/5

40060

24 660

S/166/62/000/003/008/010  
B163/B104

AUTHORS: Arushanov, G. G., Kotov, Ya. P.

TITLE: Photon scattering from a freely moving electron

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 3, 1962; 70 - 74

TEXT: The differential cross section for the scattering of polarized and nonpolarized photons from a free electron moving with velocity  $v$  is calculated. In principle this cross section can be derived from the well known cross section formula for the electron at rest by way of a Lorentz transformation, but here the square of the modulus of the matrix element is calculated directly. Feynman's method is applied in second approximation of the perturbation theory. The differential cross section for the scattering of a polarized photon is

$$\frac{d\sigma}{d\Omega} = \frac{r_0^2 \omega_1^2 E_0^2}{(pk_1)^2} \left\{ \left[ (pe_1)(pe_2) \frac{1}{(pk_1)} - \frac{1}{(pk_2)} + \frac{(pe_1)(k_1 e_2)}{(pk_1)} \right] \right.$$

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S/166/62/000/003/008/010  
B163/B104

Photon scattering from ...

$$+ \frac{(pe_2)(k_2 e_1)}{(pk_2)} \left. \right]^2 + \frac{c}{(pk_1)(pk_2)}$$

where  $k_1, e_1, k_2$  and  $e_2$  are the four-component momentum and polarization before and after scattering,  $r_0$  the classical electron radius,  $\omega_1$  and  $\omega_2$  the photon energies before resp. after scattering,  $E_0$  the electron rest energy, and  $c = \frac{1}{4} \cdot (k_1 k_2)^2 + (e_1 e_2)^2 (pk_1)(pk_2) + 2(e_1 e_2) [(pe_1)(pe_2)(k_1 k_2) - (pe_1)(k_1 e_2)(pk_2) - (pe_2)(k_2 e_1)(pk_1)]$ . Some special cases are treated in which the expressions are much simplified, (such as forward scattering, initial directions of electron and photon perpendicular, limiting cases  $v \rightarrow 0$ ,  $v \rightarrow c$ , non-relativistic approximation) and the cross section for non-polarized photons is obtained by summation over the initial and final polarization states. If the electron is initially moving the case  $\omega_2 > \omega_1$  also is possible.

Card 2/3

On the stationary flow ...

S/166/62/000/003/009/010  
B163/B104

that of the non-conducting fluid, even if the conducting fluid is less viscous.

ASSOCIATION: Fiziko-tekhnicheskii institut AN UzSSR (Physicotechnical Institute of the AS UzSSR)

SUBMITTED: September 19, 1961

Card 2/2

LC558  
S/166/62/000/004/007/010  
B112/B186

54.12.15  
AUTHORS: Kotov, Ya. P., Umarov, G. Ya.

TITLE: Establishment of thermal equilibrium between a neutral gas and electrons

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1962, 52-56

TEXT: The rate of attaining temperature balance between the electrons and atoms (molecules) of a two-component system is studied. Proceeding from the Boltzmann equation

$$\frac{\partial f}{\partial t} = St_{ea}(f) \quad (1)$$

in the absence of external fields and introducing Chapman's [1] term for the collision of electrons with neutrals

$$\frac{\partial f}{\partial t} = \frac{1}{v^2} \frac{\partial}{\partial v} \left[ \frac{T_a}{m_a} \frac{v^3}{\lambda(v)} \frac{\partial f}{\partial v} + \frac{m_e}{m_a} \frac{v^4}{\lambda(v)} f \right] \quad (2)$$

Card 1/2



42096

S/166/62/000/005/008/008  
B108/B186

10.2000

AUTHORS: Kotov, Ya. P., Valiyev, Kh. V.

TITLE: Flow of a conducting liquid around an infinitely long cylinder in a magnetic field

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 5, 1962, 88-89

TEXT: The steady flow of a viscous conducting liquid around a cylinder was calculated by R. Ya. Damburg (Izv. AN LatvSSR, 1959, 5(142), 81) for weak magnetic fields. The same is done here for strong magnetic fields (Hartmann number  $M \gg 1$ ). The solution obtained by Damburg for small Reynolds number has the form

$$\left. \begin{aligned} \bar{u} &= \exp(2kx) \nabla \psi_1 + \\ &+ \exp(-2kx) \nabla \psi_2 + \bar{t} \\ p &= 2k \left[ \exp(2kx) \frac{\partial \psi_1}{\partial x} - \right. \\ &\left. - \exp(-2kx) \frac{\partial \psi_2}{\partial x} \right] + p_\infty \end{aligned} \right\} \quad (1)$$

Card 1/3

Flow of a conducting liquid around an ...

S/166/62/000/005/008/008  
B108/B186

with

$$\left. \begin{aligned} \Phi_1 &= \sum_{n=0}^{\infty} C_n(k) \exp(-kr \cos \varphi) \times \\ &\times \left( \frac{\partial}{\partial x} \right)^n K_0(kr) \\ \Phi_2 &= \sum_{n=0}^{\infty} C_n(k) (-1)^{n+1} \times \\ &\times \exp(kr \cos \varphi) \left( \frac{\partial}{\partial x} \right)^n K_0(kr) \end{aligned} \right\} \quad (2).$$

The second-kind Bessel function with imaginary argument,  $K_0(kr)$  are written as asymptotic expressions:

$K_0(kr) \approx \sqrt{\frac{\pi}{2kr}} \exp(-kr)$ ,  $kr \rightarrow \infty$ ;  $k = M/2$ . Using this, the authors arrive at the expression  $F = \frac{2}{3} \pi \rho v_\infty M$  for the pressure exerted by the liquid per

Card 2/3

ARUSHANOV, G.G.; KOTOV, Ya.P.

Photon scattering by freely moving electrons. Izv. AN Uz. SSR.  
Ser. fiz.-mat. nauk 6 no.3:70-74 '62. (MIRA 15:8)

1. Fiziko-tekhnicheskii institut AN UzSSR.  
(Compton effect)

KOTOV, Ya.P.; UMAROV, G.Ya.; FAYZULLAYEV, D.F.

Steady flow of a conductive medium in the presence of a magnetic field. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 6 no.3:75-80 '62. (MIRA 15:8)

1. Fiziko-tekhnicheskiy institut AN UzSSR.  
(Hydrodynamics) (Electric conductivity) (Magnetic fields)



KOTOV, Ya.P.; UMAROV, G.Ya.

Establishment of thermal equilibrium between a neutral gas and  
electrons. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 6 no.4:52-56  
'62. (MIRA 15:9)

1. Fiziko-tekhnicheskii institut AN UzSSR.  
(Plasma (Ionized gases)) (Electron beams)

KOTOV, Ya.P.; VALIYEV, Kh.V.

Flow of a conducting liquid past an infinite cylinder in  
a high magnetic field. Izv. AN Uz. SSR. Ser. fiz.-mat.  
nauk 6 no.5:88-89 '62. (MIRA 15:11)

1. Fiziko-tekhnicheskiy institut AN UzSSR.  
(Hydrodynamics) (Magnetic fields)

L 00269-66 EEC(k)-2/EWA(h)/EWT(1)/T IJP(c)

ACCESSION NR: AP5020856

UR/0166/65/000/004/0045/0050

AUTHORS: Aronov, D. A.<sup>44</sup> Kotov, Ya. P.<sup>44</sup>

TITLE: The differential resistance of tunnel diodes <sup>25.44</sup>

39  
37  
3

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1965, 45-50

TOPIC TAGS: tunnel diode, differential resistance, temperature effect

ABSTRACT: The effect of fabrication techniques on the differential resistance of tunnel diodes was investigated so that the negative resistances, desirable for electronic devices, could be more readily obtained. This article extends earlier work in this field, particularly by D. A. Aronov and P. Ya. Rabinovich ("Radiotekhnika i elektronika," 9, 1964, No. 4, 716). With equations from this reference expressing the volt-ampere characteristics for electrons having a long mean free path, the situation for a symmetrically degenerate p- and n-region diode was analyzed. For voltages  $0 \leq V \leq 2\eta$  the tunnel current was studied for arbitrary temperatures and degrees of degeneration. The results, which agree with previous theoretical and experimental studies in the case of a very strong degeneracy, indicate that the differential conductivity is positive with  $V < V_m$ .

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L 00269-66

ACCESSION NR: AP5020856

and decreases with increasing  $V$  until, at  $V_m$ , it equals 0. It then changes sign and becomes more negative up to  $V_n$ , and again approaches 0. The change of differential resistance depends on the fabricating technology (increased impurity concentration, decreased temperature and fusing time reduce the negative resistance). The temperature dependency of the differential resistance was studied from the same starting point for very strongly degenerate n- and p-region diodes when the tunnel current is determined by the electrons with an energy  $\ll$  the energy corresponding to the level of the chemical potential (the temperature blurring of the carrier distribution function was disregarded). The results again agreed with earlier work and indicate that the character of the temperature dependence of the negative resistance varies with the degree of alloying and can be controlled. Orig. art. has: 14 formulas and 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut, AN UzSSR (Physics-Engineering Institute, AN UzSSR)

SUBMITTED: 30Jul64

ENCL: 00

SUB CODE: EC

NO REF SOV: 008

OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825410020-9

Author: Aronov, D. A.; Kotov, Ya. P.

Org: Physico-technical Institute AN UzSSR (Fiziko-tekhnicheskiy institut AN UzSSR)

TITLE: Influence of adhesion centers on the Demer effect and photoconductivity of a semiconductor at large illumination levels

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 3, 1966, 71-77

TOPIC TAGS: photoconductivity, semiconductor carrier, carrier density, optic center, adhesion, radiative recombination

ABSTRACT: This is a continuation of earlier work (Izv. AN UzSSR, seriya fiz.-mat. nauk, 1965, no. 2, pp. 40-47) on the photoconductivity of a thick semiconductor exposed to strong illumination. The present paper deals with a semiconductor of arbitrary thickness in the case of monomolecular recombination via recombination centers, with account taken of the presence of adhesion levels. The differential equations and boundary conditions for such a semiconductor are derived and expressions are obtained for the Demer-effect voltage, for the electric field intensity, and for the carrier diffusion coefficients. Approximate equations are obtained for the particular cases when the hole density is much larger or much smaller than the equilibrium density in the valence band, and an expression is then derived for the photoconductivity. This expression consists of three terms, one independent of the illumination, the second proportional to the logarithm of the illumination, and the third linear in the

Card 1/2

KOTOV, Ye., master

We are improving the technology of periodic repairs on electric locomotives. Elek. i tepl. tiaga 2 no.2:23-25 F '58. (MIRA 11:4)

1. TSekh periodicheskogo remonta lokomotivnogo depo Zlatoust, Yuzhno-Ural'skoy dorogi.

(Electric locomotives--Maintenance and repair)

30V/84-58-10-37/54

AUTHOR: ~~Kotova, Yez~~, Chief of Enterprise, Klizhenko P., Chief Engineer

TITLE: First Steps in a Joint Maintenance and Repair Enterprise  
(Pervyye shagi v ob'edinennom ekspluatatsionno-remontnom  
predpriyatii)

PERIODICAL: Grazhdanskaya aviatsiya, 1958,<sup>15</sup> Nr 10, pp 28-29 (USSR)

ABSTRACT: The article deals with a new joint maintenance and repair enterprise, the first in Aeroflot (Air Fleet), opened in January 1958. Established at the base of former line maintenance and repair workshops (LERM), its object was to eliminate duplication of work, cut administrative personnel, improve quality, reduce time in repair and technical servicing, and thus cut expenditures and man-hours. Previous attempts, dating back to the summer of 1957, had proved ineffective. The solution was finally found in setting up 2 complex brigades, assigned to the preparatory production shop,

Card 1/2

SOV/84-58-10-37/54

First Steps in a Joint Maintenance (Cont.)

which was provided with ample supplies of spare parts and materials and located close to the planes. The reorganization of the various shops and improved procedures resulted in an overfulfillment of the output plan and reduced production costs. The statistical comparison of output in repair and maintenance between the first 6 months of 1958 and the corresponding 1957 figures, demonstrated the effectiveness of a joint enterprise which utilized equipment and production area to a much larger degree. There are 3 photographs.

Card 2/2

KOTOV, Ye., nachal'nik remontnogo predpriyatiya; KLIMENKO, P., glavnyy  
inzhener remontnogo predpriyatiya

Continuous repair and assembling on stands. Grazhd. av. no.3:24  
Mr '61. (MIRA 14:3)

(Airplanes--Maintenance and repair)



PROCESS AND PROPERTIES INDEX																									
TEST AND PROPERTIES													TEST AND PROPERTIES												
<p>CA</p> <p>Agglomeration and smelting of zinc cakes with lead concentrates. S. M. Anisimov and E. I. Kotov. <i>Isvestiya Metal.</i> 1940, No. 7, 64-73.—Pb concentrates and Zn cakes of electrolytic Zn works roasted on the Dwight Lloyd machines gave an agglomerate contg. 1.2% S. However, this has not yet been satisfactorily smelted. B. N. D.</p>																									
<p>ASB-55A METALLURGICAL LITERATURE CLASSIFICATION</p>																									

1ST AND 2ND OBJECTS		PROCESSING AND PROPERTIES INDEX	
<p>CH</p>		<p>18</p>	
<p>Sintering of PbSO<sub>4</sub> cake. B. I. Kotov. <i>Tsvetnaya Metall.</i> 16, No. 14/15, 40-50(1941); <i>Chem. Zvest.</i> 1943, II, 948. — Before being sintered, PbSO<sub>4</sub> cake must be dried to a moisture content of 6-8% and crushed to 4-mm. grain size. The mech. strength is reinforced by addn. of 5% -10% of 10-mm., or better, 6-mm. grain size. Other addns. are 4.5-5% C and 35-40% agglomerate. The sintering process is carried out in layers 230 mm. thick. The desulfurization and sulfate decomp. are 70-80 and 85-90%, resp. (S and SO<sub>2</sub> contents of the coarse agglomerate are 1.5-2 and 0.5%, resp.). The fine agglomerate (25-30%) can be sintered in a subsequent step after suitable addn. of C and coarse agglomerate. The two-step procedure improves the mech. strength of the final product. The gaseous products contain CO<sub>2</sub> 1.4, SO<sub>2</sub> 0.4, O<sub>2</sub> 18.4, SO<sub>2</sub> 0.18%, resp., and 0.43 g./cu. m. dust contg. Pb 34.6 and Zn 8.1%. The dust sucked off at the discharging end contains Pb 31.03, Zn 11.7 and Cd 0.95%. It is also possible to sinter the cake together with Pb concentrate. In this procedure, the yield of coarse agglomerate amounts to 85 and 95%, resp., in the one-step and two-step processes, the SO<sub>2</sub> content of the gaseous products is higher, and so is their temp. (up to 140° instead of 110-130°). Addn. of 80% of this agglomerate to the shaft furnace charge results in an acceleration of the melting process. W. Leszynski</p>			
<p>ASB-55A METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>SEARCHED INDEXED</p>		<p>REVISIONS</p>	
<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>		<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>	

KOTOV, Ye.I.

Theory and calculation of the distillation of metals and method of verifying experimental data using as an example the system zinc-cadmium.  
Vestnik Akad. Nauk Kazakh. S.S.R. 6, No.1, 37-51 '49. (MLRA 2:4)  
(CA 47 no.18:9084 '53)

US APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000825410020-9

Obs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18153

Author : Kotov, E.I.

Title : Spectral Examination of the Interaction of Benzidine with Surfaces of Antinite, Aluminosilicate and Silicagel.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 4, 500-506

Abstract : Absorption spectra of benzidine (I) adsorbed on antinite (II), aluminosilicate (III) and silicagel (IV) are examined in visible region and close to it ultraviolet and infrared regions; the influence of O<sub>2</sub>, air and water vapors on absorption spectra is also investigated. Absorption curves are given. In all cases maximum was found ~3000 $\mu$ ; for cases II and III maxima are equal ~4500, 7500 and 8500 $\mu$  and vanish when undergoing the action of H<sub>2</sub>; for II also at 6000 $\mu$ . Oxygen does not change absorption spectra I into II and III but causes the appearance of maxima ~4100 and 8300 $\mu$  in case IV.

51-4-12/26

On Distortions in the Absorption Spectrum of Adsorbed Substances  
in Measurements in Diffusely Reflected Light.

the absorption maximum at 2450 Å (Fig. 1). The less intense absorption maxima at 2850-3300 Å of Fig. 1 were not reproduced by curve 1 of Fig. 2, since the quantity of adsorbed molecules was too small for that. Curve 2 of Fig. 2 was obtained after further adsorption of benzaldehyde. It exhibits, in addition to an absorption maximum at 2550 Å, another less intense maximum of 2900 Å, which corresponds to the 2850 Å maximum of Fig. 1. Further increase of the amount of adsorbed benzaldehyde does not reproduce the 3300 Å maximum of Fig. 1, and the spectral curves of T (curves 3-5 of Fig. 2) are basically different from the absorption spectrum of benzaldehyde dissolved in ethanol. Similarity of curves 1 and 2 to the absorption curve of benzaldehyde in ethanol is due to the fact that a system of adsorbed molecules isolated from one another on the powder surfaces is similar to a system of molecules in solution. Displacement of the absorption spectrum of adsorbed molecules by about 100 Å compared with the

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51-4-12/26

On Distortions in the Absorption Spectrum of Adsorbed Substances  
in Measurements in Diffusely Reflected Light.

solution spectrum is due to the interaction of benzaldehyde molecules with the silica gel surface. The changes in the spectrum observed on the increase of the amount of adsorbate are due not to the interaction of molecules themselves, or to the interaction with the silica gel, but are due to a change of the coefficient of reflection at the particle-powder boundaries when adsorbed layers are formed on them. These spectral changes occur even when the number of adsorbed molecules is 100 times less than that necessary to form a monomolecular layer on powder particles. It is suggested that molecules of benzaldehyde gather into micro-drops in pores of silica gel. These conclusions are verified by additional tests on benzaldehyde adsorbed on quartz powder and on a layer of benzaldehyde between two quartz plates (Fig. 2, curves 7, 8 and 6 respectively). Benzaldehyde adsorbed on quartz does not exhibit optical distortions in its absorption spectrum because quartz is not porous. Benzaldehyde adsorbed on Al-silica gel behaves similarly to benzaldehyde adsorbed on silica gel.

Card 5/6

KOTOV, Ye. I. Cand Phys-Math Sci -- (diss) "Absorption spectra of molecules of aromatic ~~am~~ amines adsorbed on the surface of aluminosilicate adsorbents." Len, 1959. 13 pp (Len Order of Lenin State Univ im A. A. Zhdanov), 200 copies (KL, 52-59, 116)

-8-

5(4), 24(7)

SOV/20-124-4-38/67

AUTHORS: Kotov, Ye. I., Terenin, A. N., Academician

TITLE: The Investigation of the Ultraviolet and Visible Absorption Spectra of Aromatic Amines Adsorbed on the Specific Centers of Aluminosilicate Catalysts (Issledovaniye ul'trafiol'etovyykh i vidimyykh spektrov pogloshcheniya aromaticeskikh aminov, adsorbirovannykh na spetsificheskikh tsentrakh alyumosilikatnykh katalizatorov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 865-868 (USSR)

ABSTRACT: An investigation of the above-mentioned spectra is of interest for the purpose of explaining the influence exercised by proton-donor- and electron-acceptor-centers on the activity of aluminum silicate catalysts in cracking. M. A. Kaliko (VNII NP) and K. V. Topchiyeva (MGU) kindly placed technical and laboratory samples of synthetic aluminum silicate catalysts of various composition at the authors' disposal. The authors further had samples of an aluminum silicate catalyst available, which was produced by I. F. Moskovakaya (MGU) in solutions of  $\text{NaOOCCH}_3$  and  $\text{LiOOCCH}_3$ , and was etched with  $\text{Na}^+$ - and  $\text{Li}^+$ -ions. For spectral investigation the aromatic amines used already previously in the authors' laboratory were used: also the adsorbents used

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SOV/20-124-4-38/67

The Investigation of the Ultraviolet and Visible Absorption Spectra of  
Aromatic Amines Adsorbed on the Specific Centers of Aluminosilicate Catalysts

(there were 13 of them) are mentioned. All adsorbents were crushed in a mortar and scattered through a gauging-net. The powder thus obtained consisted of particles of irregular shape and measuring about  $50\mu$ . The specific area of the powder probably amounts to  $300-500 \text{ m}^2/\text{g}$ . The pre-treatment of the adsorbents is described in short. The adsorption spectra of aniline are given by a diagram. A further diagram schematically shows the absorption bands found in the case of the adsorption of aniline in various adsorbents. The third diagram shows the absorption spectra of the positive molecular ions of the dimethyl para-phenylene diamine, which are located in the visible region. All data found by the present paper are indicative of the existence of strong electron-acceptor oxidation centers on the surface of the aluminum silicate catalysts. The following conclusions are arrived at: 1) In the etching of aluminum-silicate catalysts by  $\text{Na}^+$  and  $\text{Li}^+$ -ions the oxidizing electron-acceptor centers are conserved, and they also remain accessible to the adsorbed foreign molecules. The activity loss of the catalysts indicates that the activity of the aluminum-silicate catalysts used for cracking cannot be directly connected with the existence

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SOV/20-124-4-38/67

The Investigation of the Ultraviolet and Visible Absorption Spectra of  
Aromatic Amines Adsorbed on the Specific Centers of Aluminosilicate Catalysts

of these centers. 2) With the disappearance of the activity of the aluminum-silicate catalysts used for cracking when etched by ions of alkali metals, also the proton-donor centers disappear, which become noticeable by their influence on the adsorbed molecules. The authors thank K. V. Topchiyeva, I. F. Moskovskaya, and M. A. Kaliko for their collaboration in connection with investigations, and for their advice. There are 3 figures and 9 references, 7 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta im. A. A. Zhdanova  
(Physico-scientific Research Institute of Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: November 3, 1958

Card 3/3



KOTOV, Ye. I.; BARCHEVSKY, V. ; HO' MOGOROV, V. ②

"Spectral Investigations of Molecular Ion Formation  
on the Surface of Solids"

Presented at the IUPAC Symposium on Molecular Structure and Spectroscopy,  
Tokyo, Japan, 10-15 Sep 62.

BARACHEVSKIY, V.A.; KOTOV, Ye.I.; TERENIN, A.N., akademik

Spectra of molecular anthracene ions formed during vacuum  
adsorption. Dokl. AN SSSR 143 no.2:362-365 Mr '62.

(MIRA 15:3)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo  
gosudarstvennogo universiteta im. A.A.Zhdanova.

(Anthracene — Spectra)

(Adsorption)

BARACHEVSKIY, V.A.; KOTOV, Ye.I.; TERENIN, A.N., akademik

Spectral examination of the effect of steam on adsorbed  
molecular ions of anthracene. Dokl.AN SSSR 144 no.2:378-381  
My '62. (MIRA 15:5)

1. Fizicheskiy institut Leningradskogo gosudarstvennogo universiteta.  
(Anthracene—Spectra) (Water vapors)

BARACHEVSKIY, V.A.; KHOLMOGOROV, V.Ye.; KOTOV, Ye.I.; TERENIN, A.N.,  
akademik

Absorption spectra and electron paramagnetic resonance spectra  
of positive acene ions formed in vacuum adsorption. Dokl. AN  
SSSR 147 no.5:1108-1111 D '62. (MIRA 16:2)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo  
universiteta im. A.A. Zhdanova.  
(Acenes—Spectra) (Adsorption)

KRINETSKIY, I.I., kand.tekhn.nauk; KOTOV, Ye.N., inzh.; ORZHEL', A.D., inzh.

Investigating the nonlinear static automatic control system. Avtom.i  
prib. no.2:10-24 '61. (MIRA 14:12)

(Electronic control)

YASNOPOL'SKIY, V.V., inzh.; KOTOV, Ye.N., inzh.

Electronic modeling of the pulse system of the automatic control of  
the moisture content of brown coal. Avtom.i prib. no.2:55-60 '61.  
(MIRA 14:12)

(Electronic analog computers) (Electronic control)

L 12850-66 EWT(d)/ENP(v)/T/ENP(k)/ENP(h)/ENP(l) IJP(c)

ACC NR: AP6002395

SOURCE CODE: UR/0103/65/026/012/2113/2119

AUTHOR: Kotov, Ye. O. (Moscow)

ORG: none

TITLE: The analysis of linear systems with variable parameters

SOURCE: Avtomatika i telemekhanika, v. 26, no. 12, 1965, 2113-2119

TOPIC TAGS: automatic control, linear system, frequency response function, system stability

16.04.85  
ABSTRACT: It is indicated that approximate methods which usually are applied to the analysis of practical linear systems with variable parameters can not give answers to many important problems connected in practice with such systems. As an example, the author takes the method of a small parameter by means of which the solution of an equation describing the behavior of such systems is sought in the form of a series in powers of a small parameter  $\epsilon$ . It is shown that difficulties arising in studying such systems (especially in studying their stability) rest in the fact that only the order of the approximation errors of the solution is known, but its upper bound is unknown. The article deals with establishing the upper bound of the approximation errors for solutions of linear systems of a general form with variable coefficients, and with establishing sufficient conditions for the stability of such systems on the basis of that upper bound. An ordinary differential equation of arbitrary order which describes a linear system with variable

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UDC: 62.501.12

L 12850-66

ACC NR: AP6002395

parameters is used to derive a sequence of approximate frequency-response functions by the method of successive approximations. A simple estimate (upper bound) is established for the error of the  $i$ -th approximation which serves as the basis for deriving a sufficient stability condition in the form of an inequality. This criterion depends on  $m$ , which characterizes the effect of oscillation of all parameters upon the behavior of the system and on  $\alpha$  which characterizes the stability of the generating system (the corresponding system with constant parameters). On the basis of the derived results, the following two deductions are made: 1) When the corresponding generating system is stable, then for sufficiently small  $m$  a system with variable parameters is also stable and the error of the approximate solutions can be made arbitrarily small on an infinite time interval. 2) When the generating system is unstable, then for sufficiently small  $m$  the error of approximate solutions can be made arbitrarily small on any finite time interval. Orig. art. has: 24 formulas.

[LK]

SUB CODE: 12/ SUBM DATE: 15Apr65/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4181

Card 2/2

HW



KOTOV, Ye.V.

Cause of the cutoff of the traction motors of the VL22<sup>M</sup> electric locomotive. Elek. i tepl. tiaga 6 no.11:35-36 N '62. (MIRA 16:1)

1. Master tsekha periodicheskogo remonta depo Yaroslavl'-Glavnyy Severnoy dorogi.

(Electric locomotives)

ACC NR: AP7007740 (A, N) SOURCE CODE: UR/0107/66/000/003/0028/0032

AUTHOR: Kotov, Yu. A. (Tomsk); Mel'nikov, M. A. (Tomsk)

ORG: none

TITLE: Recording of shock waves and exploding wire electrical characteristics

SOURCE: Elektronnaya obrabotka materialov, no. 3, 1966, 28-32

TOPIC TAGS: exploding wire, shock wave, shock wave ~~recording~~, <sup>analysis</sup> exploding wire characteristics

ABSTRACT: A system for the recording of shock-wave velocities and the current and voltage in an exploding wire is described. The purpose of the present work is to create a source of shock waves with controllable (variable) parameters. The solution of the problem consists in the strict synchronization of the basic elements of the system: the generator of the exploding power, the generator of the exposure pulse, two oscillographs, and the SFR-2 recording camera. The system also includes a common time marking device, the marks of which appear on photoscanned displays. One of the two oscillographs, an OK-19M2 (scanning range, 0.1 to 3  $\mu$ sec), records

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UDC: none

ACC NR: AP7007740 "APPROVED FOR RELEASE: 08/23/2000

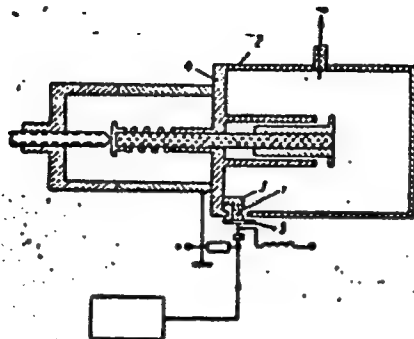
CIA-RDP86-00513R000825410020-9"

individual stages of the process; the other, an OK-17M2 (scanning range, 3 to 2000  $\mu$ sec), records the whole cycle. The circuitry and its operation are described and its components discussed. The authors thank Professor A. A. Vorob'yev for his interest and assistance. Orig. art. has: 4 figures. [FP]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 007/ ATD PRESS: 5117

Card 2/2

ACC NR: AP7009066



1—parametric diode; 2—resonator; 3—coupling element; 4—resonator wall; 5—structural capacitance

SUB CODE: 09/ SUBM DATE: 10Dec65

Card 2/2

KOVAL'CHUK, Boris Mikhaylovich, inzh.; KOTOV, Yuriy Aleksandrovich, inzh.;  
MEL'NIKOV, Mikhail Alekseyevich, kand. tekhn. nauk, dotsent

Determination of the energy of an electric spark. Izv. vys.  
ucheb. zav.; elektromekh. 8 no.10:1168-1171 '65.

(MIRA 18:11)

1. Tomskiy politekhnicheskii institut (for Koval'chuk, Kotov).
2. Kafedra tekhniki vysokogo napryazheniya Tomskogo politekhnicheskogo instituta (for Mel'nikov). Submitted April 27, 1964.

KOTOV, Yu.B.

Stimulator generating preset impulse series. Biul. eksp.  
biol. i med. 60 no.9:116-118 S '65. (MIRA 18:10)

L 22887-66

ACC NR: AP6013997

SOURCE CODE: UR/0219/65/060/009/0116/0118

AUTHOR: Kotov, Yu. B.

ORG: none

35  
B

TITLE: Stimulator for generating a predetermined series of pulses

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 60, no. 9, 1965, 116-118

TOPIC TAGS: electrophysiology, pulse generator, DC amplifier, pulse modulator

ABSTRACT: An electron stimulator intended for use in electrophysiological investigations has been designed. The device generates a series of square pulses the amplitude and frequency of which can be modified to correspond to graphically represented functions in the course of the series. The duration of the series can be regulated within the limits of four milliseconds to 240 seconds with intervals between discharge pulses from 0.6 milliseconds to 7.5 seconds. The system which regulates amplitudes and the pulse generator consists of direct current amplifiers, diode pulse modulator, cathode follower, relay element, multivibrator which forms the impulses, resistors and capacitors. The device is described in detail in the article. This paper was presented by V. V. Parin, Active Member AMN SSSR. The author thanks B. I. Golyshev for his assistance in preparing the model. Orig. art. has: 3 figures. [JPRS]

SUB CODE: 09, 06 / SUBM DATE: 05Jun64 / ORIG REF: 001 / OTH REF: 002  
Card 1/1 BIG UDC: 612.014.421.8

h1134

S/056/62/043/004/039/061  
B104/B186

3.2410

AUTHORS: Kotov, Yu. D., Rozental', I. L.

TITLE: The hyperon hypothesis and the production of high-energy cosmic muons and photons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 4(10), 1962, 1411 - 1418

TEXT: The differential spectrum of cosmic muons with energies between  $10^{11}$  and  $10^{14}$  ev is calculated on the basis of the hyperon hypothesis by P. Babu and Y. Pal (Preprint 1961). On this hypothesis the particles which carry away the greater part (0.7 - 0.8) of the energy borne by the initial particle in a reaction are hyperons. It was assumed that the hyperons  $\Lambda$ ,  $\Sigma^+$ ,  $\Sigma^0$ ,  $\Sigma^-$  are formed with equal probability, and that the decay scheme is as follows:

- a)  $\Lambda^0 \rightarrow p + \pi^-$ ,  $w = 1$ ,  $E_\pi = 0.17$  BeV;
- b)  $\Sigma^+ \rightarrow p + \pi^0$ ,  $w = 1/2$ ,  $E_\pi = 0.23$  BeV;
- $\Sigma^+ \rightarrow n + \pi^+$   $w = 1/4$ ;
- c)  $\Sigma^0 \rightarrow \Lambda + \gamma$ ,  $w = 1$ ;
- d)  $\Sigma^- \rightarrow n + \pi^-$ ,  $w = 1$ ,  $E_\pi = 0.23$  BeV.

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The hyperon hypothesis and...

S/056/62/043/004/039/061  
B104/B186

$E_\pi$  is the mean energy of a pion in the hyperon reference system. The probability  $w$  for the formation of muons with the energy  $E_\mu$  is

$$w = u_1 u_\pi / (u_1 + 1)(u_\pi + 1) \quad (2)$$

if  $x_0 \gg 1$  and if it is assumed that both the muon in the pion reference system, and the pion in the hyperon reference system fly off with a mean constant energy. The indices  $\mu$  and  $\pi$  refer to the hyperon and to the pion respectively. For a decay of hyperons produced in the first event,

$$n_1(E_\pi) dE_\pi = 10^{-1} E_\pi^{-2.65} dE_\pi \quad (5)$$

is obtained for the number of pions with energies between  $E_\pi$  and  $E_\pi + dE_\pi$ ;

and

$$N_1(E_\mu) = \frac{6 \cdot 10^{-2} E_\mu^{-2.65} dE_\mu}{(1 + E_\mu/100)(1 + 4E_\mu/100000)} \quad (6)$$

for the number of muons in the same energy range. Assuming that in the  $i$ -th collision the energy  $\alpha^i E_0$  is released if  $u = 1 - k \sim 0.6 - 0.7$ , and that the collision probability of a particle of the  $i$ -th generation in the depth between  $x$  and  $x+dx$  is equal to  $\{e^{-x} x^{i-1} / (i-1)!\} dx$ , the particles subsequent to the first generation can easily be considered:

Card 2/5

The hyperon hypothesis and...

S/O56/62/045/004/039/061  
B104/B186

$$N^+(E_\mu) dE_\mu = 1.6 \cdot 10^{-2} E_\mu^{-2.65} dE_\mu \sum_{i=1}^{\infty} \frac{\alpha^{i\gamma}}{(1 + iE_\mu/100)(1 + 4iE_\mu/100000)} + \frac{1.5 \cdot 10^{-2} E_\mu^{-2.57} dE_\mu}{1 + E_\mu/100}, \quad (10)$$

$$N^-(E_\mu) dE_\mu = 10^{-1} E_\mu^{-2.65} dE_\mu \sum_{i=1}^{\infty} \frac{\alpha^{i\gamma}}{(1 + iE_\mu/100)(1 + 4iE_\mu/100000)} + \frac{1.5 \cdot 10^{-2} E_\mu^{-2.57} dE_\mu}{1 + E_\mu/100}. \quad (11)$$

for positive and negative muons a negative excess of  $(N^- - N^+)/ (N^- + N^+) \sim 0.6$  for  $E_\mu \sim 50 - 100$  Bev is obtained. On the basis of the hyperon hypothesis this value is difficult to explain. The discrepancy can be eliminated only by assuming that the distribution of the nascent hyperons with respect to the sign of charge is conditioned by a statistical weight in the isotopic space. Finally, the energy spectrum of the photons is calculated assuming that all hyperons are produced with equal probability. The number

$$N_2(E_\gamma) dE_\gamma = (1 - e^{-x}) 0.001 E_\gamma^{-2.65} dE_\gamma;$$

Card 4/5



The hyperon hypothesis and...

S/056/62/043/004/039/061,  
B104/B186

arises in a  $\pi^0$ -meson decay ; the number

$$N_1(E_\gamma) dE_\gamma = (1 - e^{-\epsilon}) 0.008 E_\gamma^{-2.7} dE_\gamma;$$

in a  $\Sigma^0 \rightarrow \Lambda + \gamma$  decay, the number

$$N_2(E_\gamma) dE_\gamma = (1 - e^{-\epsilon}) 0.01 E_\gamma^{-2.7} \frac{dE_\gamma}{1 + 6E_\gamma/100000}.$$

in a  $\Sigma^+ \rightarrow p + \pi^0 \rightarrow p + 2\gamma$  decay. There are 4 figures.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskii Institut (Moscow  
Engineering Physics Institute)

SUBMITTED: April 25, 1962

Card 5/5

KOTOV, YU. D.

S/089/62/013/006/019/027  
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inzhenerno-fizicheskogo instituta (Scientific Conference of the Moscow Engineering Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400 delegates participating. A review is given of these lectures that are assumed to be of interest for the readers of Atomnaya energiya. They are following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev, design of accelerators for superhigh energies; I. Ya. Pomeranchuk, analyticity, unitarity, and asymptotic behavior of strong interactions at high energies; A. B. Migdal, phenomenological theory for the many-body problem; Yu. D. Fivevskiy, deceleration of medium-energy antiprotons in matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect; M. I. Ryazanov, theory of ionization losses in nonhomogeneous medium; Yu. B. Ivanov, A. A. Rukhadze, h-f conductivity of subcritical plasma;

Card 1/4

Nauchnaya konferentsiya...

S/089/62/013/006/019/027  
B102/B186

Ye. Ye. Lovetskiy, A. A. Rukhadze, electromagnetic waves in nonhomogeneous plasma; Yu. D. Kotov, I. L. Rozental', the origin of fast cosmic muons; Yu. M. Ivanov, muon depolarization in solids; V. G. Varlamov, Yu. M. Grashin, B. A. Dolgoshein, V. G. Kirillov-Ugryumov, V. S. Roganov, A. V. Samoylov,  $\mu^-$  capture by various nuclei; V. S. Demidov, V. G. Kirillov-Ugryumov, A. K. Ponomov, V. P. Protasov, F. M. Sergeyev, scattering of  $\pi^-$  mesons at 5 - 15 Mev in a propane bubble chamber; S. Ya. Nikitin, M. S. Aynutdinov, Ya. M. Selektor, S. M. Zombkovskiy, A. F. Grashin, muon production in  $\pi^+p$  interactions; B. A. Dolgoshein, spark chambers; N. G. Volkov, V. K. Lyapidevskiy, I. M. Obodovskiy, study of operation of a convection chamber; K. G. Finogenov, production of square voltage pulses of high amplitudes; G. N. Aleksakov, problems of color vision; V. K. Lyapidevskiy, relation between number of receivers and number of independent colors; Ye. M. Kudryavtsev, N. N. Sobolev, N. I. Tizengauzen, L. N. Tunitskiy, F. S. Fayzulov, determination of the moment of electron transition of oscillator forces and the widths of the Schumann-Runge bands of molecular oxygen; B. Ye. Gavrilov, A. V. Zharikov, V. I. Rayko, decomposition of the volume charge of intense ion beams; Ye. A. Kramer-Ageyev, V. S. Troshin, measurement of neutron spectra; G. G. Doroshenko, new methods of fast-neutron recording; V. I. Ivanov, dosimetry terminology; R. M. Voronkov,

Card 2/4

KOTOV, Yu.D.; ROZENTAL', I.L.

Origin of high-energy cosmic muons and photons and the hyperon hypothesis. Zhur. eksp. i teor. fiz. 43 no.4:1411-1418 0 '62.  
(MIRA 15:11)

1. Moskovskiy inzhenerno-fizicheskiy institut.  
(Mesons)                      (Photons)                      (Hyperons)

VEDYASHKIN, P., inzhener. KOTOV, Yu., inzhener.

Paraffinization of cheese trays. Moloch. prom. 17 no.6:  
40 '56.

(MLRA 9:10)

(Cheese factories--Equipment and supplies)

GALIMOV, N. L.; KOTOV, Yu. D.; ROZENTAL, I. L.

On the origin of High Energy Pions, Muons and Photons

Report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP), Jaipur, India,

2-14 Dec 1963

KOTOV, Yu. D.; PETRUKHIN, A. A.; ROZENTAL, I. L.

Some problems due to the angular distribution of cosmic ray muons under thick filters.

Report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP), Jaipur, India,  
2-14 Dec 1963

GRIGOROV, N.I.; KOTOV, Yu.D.; ROZENTAL', I.L.

Origin of high-energy pions, muons, and photons. Izv. AN  
SSSR. Ser. fiz. 26 no.11:1815-1820 N '64. (MIRA 17:12)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo  
gosudarstvennogo universiteta i Moskovskiy inzhenerno-fizicheskii  
institut.

KOTOV, Yu.D.; ROZENTAL, I.L.

Accuracy of computations of energy losses by fast neutrons.

Izv. AN SSSR. Ser. fiz. 28 no.11:1866-1869 N '64.

(MIRA 27:12)

1. Moskovskiy inzhenerno-fizicheskiy institut.



ACC NR: AP7007078

SOURCE CODE: UR/0048/66/030/010/1662/1665

AUTHOR: Bezus, V. A.; Gedovanishvili, L. D.; Kazarov, R. Ye.; Kirillov-Ugryumov, V. G.; Kotov, Yu. D.; Kuridze, R. V.; Rozental', I. L.; Sakvarelidze, I. I.

ORG: Institute of Physics, AN GruzSSR (Institut fiziki AN GruzSSR); Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut); Tbilisi State University (Tbilisskiy gosudarstvennyy universitet)

TITLE: Study of high-energy muons at a complex installation [Paper presented at the All-Union Conference on Cosmic Radiation Physics, Moscow, 13-20 Nov 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 10, 1966, 1662-1665

TOPIC TAGS: muon, cosmic radiation, calorimeter

SUB CODE: 20

ABSTRACT: A study of high-energy cosmic radiation muons was carried out at an installation consisting of an ionization calorimeter located in a tunnel at a depth of 130 m from the surface and five groups of hodoscopic counters on the surface which recorded showers accompanying the muons. The experimentally determined ionization burst spectrum of the muons could be described by the equation  $T(>k) = T_0 k^{-\gamma}$ , where  $k$  is the magnitude of the burst expressed in an equivalent number of relativistic particles.  $\gamma$  was 2.0 at  $k = 1000-4000$ , which corresponded to  $\gamma = 2.5$  for the vertical flux of muons. The principal contribution to the bursts recorded was made by muons with a energy of  $3 \times 10^{11}$

Card 1/2

ACC NR: AP7007078

$\sim 2 \times 10^{12}$  ev. At a projection angle  $\leq 70^\circ$ , at which no more than two adjacent ionization chambers in the six vertically arranged rows in the ionization calorimeter operated,  $\gamma$  was 2.2. During 765 hours of operations, corresponding to 1100 recorded bursts, the latter were accompanied by broad showers

( $N_e = 5 \times 10^4 - 5 \times 10^5$ ) in nine cases. From a statistical standpoint, this result was insufficient for definite conclusions with regard to the correlation between muons and showers. The authors thank E. L. Andronikashvili and G. Ye. Chikovani for their interest and discussions, which greatly helped in the research. Orig. art. has: 4 figures and 1 formula. [JPRS: 39,658]

Card 2/2

Raman Spectrum of Gaseous  $\text{CO}_2$ .

52-4-2-25/22

that it is less than  $2 \times 10^{-6} \text{ cm}^{-1}$ . Measuring  $\lambda$  the author finds  $B_0 = 0.3095 \pm 0.0004 \text{ cm}^{-1}$ . This value of  $B_0$  agrees well with the value found from infrared spectra (Ref.2, p.422). Values of the vibrational frequencies for fully-symmetric vibration were also obtained. They were found to be 1235.7 and 1388.2  $\text{cm}^{-1}$ ; these values agree with the values given in Refs.4 and 5. There are 1 figure, 1 table and 5 references of which 1 is Soviet, 3 American and 1 a translation of American work into Russian.

ASSOCIATION: Moscow State University. (Moskovskiy gos. universitet)

SUBMITTED: May 17, 1957.

1. Raman spectrum-Carbon dioxide analysis
2. Carbon dioxide-Spectrographic analysis

PAGE 2/2

OBOLENTSEV, R.D.; KOTOV, Yu.I.; CHELOV, Ye.N.

Vibrational spectra of sulfides. Khim.sera-i azotorg.sod.sod.v neft.  
nefteprod. 3:105-114 '60. (MIRA 14:6)

1. Bashkirskiy filial AN SSSR, Otdel khimii.  
(Sulfide--Spectra)

h3h98

S/051/62/013/006/014/027

E039/E120

11/12/70

AUTHORS: Kotov, Yu.I., and Tatevskiy, V.M.

TITLE: The Raman and infrared absorption spectra of liquid deuterated hydrazine,  $N_2D_4$

PERIODICAL: Optika i spektroskopiya, v.13, no.6, 1962, 855-857

TEXT: This work fills a gap in the published literature. The  $N_2H_4$  is 98.5% pure and the  $N_2D_4$  96.3% pure using 95%  $D_2$ . A ДФС-4 (DFS-4) spectrometer was used with a 600 line/mm grating giving a linear dispersion of 6.9 Å/mm in the 2nd order. A low pressure mercury lamp was used as a source (4358 Å line with  $KNO_2$  solution as a filter). Raman spectra were recorded on Agfa orthochrome film and also photoelectrically, exposures of 6, 12 and 48 hours being required. Infrared spectra were investigated on a double beam ИКС-14 (IKS-14) spectrometer using NaCl and LiF prisms. Thin films (0.02-0.05 mm thick) of teflon were used to prevent clouding of the KBr cell windows. Values of frequencies for the Raman and infrared absorption spectra are shown in the table. The frequencies of the fundamental bands in the  $N_2H_4$  spectra agree with those in the literature. The results of this Card 1/3

The Raman and infrared absorption ...

S/051/62/013/006/014/027  
E039/E120

Table, continued.

$N_2H_4$		$N_2D_4$	
Raman spectrum	I.R. spectrum	Raman spectrum	I.R. spectrum
2968 (1)		1164 (0.5)	1150 (c.)
3187 (10)	3189 (o.c.)	1201 (5)	
3256 (10)	3270 (o.c.)	1473 (1)	1371 (o.c.l.)
3332 (9)	3310 (o.c.)		1462 (c.)
		2352 (10)	1569 (o.c.l.)
		2417 (10)	2330 (o.c.)
		2490 (9)	2397 (o.c.)
		3278 (1.5)	2477 (o.c.)
		3325 (1)	3273 (cp.)

NOTE: c. - strong  
c.l. - weak  
cp. - average

o.c. - very strong  
o.c.l. - very weak

S/189/63/000/001/003/008  
D204/D307

AUTHORS: Kotov, Yu. I. and Tatevskiy, V. M.

TITLE: Calculation of the vibrational spectrum of the tetra-fluorohydrazine molecule,  $N_2F_4$

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 1, 1963, 10-12

TEXT: The present work was motivated by the scarcity of literature data concerning the vibrational spectrum of  $N_2F_4$ . The calculations were carried out for the 2 most probable configurations: (a) a form in which the deflection angle of one  $NF_2$  group w.r.t. the other,  $\theta$ , is  $65^\circ$  (symmetry group  $C_2$ ), and (b) the trans-form (symmetry group  $C_{2h}$ ). An expression for the potential energy of  $N_2F_4$  is given in terms of force constants (derived from experimental data for  $N_2H_4$ ,  $NF_2$ ,  $NF_3$  and  $C_2F_6$ ) internuclear distances ( $N-N =$

Card 1/2

Calculation of the ...

S/189/63/000/001/003/008  
D204/D307

1.47 Å,  $N-F = 1.37$  Å) and valency angles ( $\angle FNF = 108^\circ$ ,  $\angle NNF = 104^\circ$ ,  $\theta = 65^\circ$  or  $180^\circ$  (for the trans-form)). The results of calculating the expected frequencies are tabulated. Five frequencies of each form of  $N_2F_4$  are to be expected in the  $900 - 1050 \text{ cm}^{-1}$  region, two of which should appear in the ir spectrum; this is in agreement with observations of Colburn and Kennedy (J. Amer. Chem. Soc., 80, 5004, 1958). It is considered that gaseous  $N_2F_4$  is largely in the " $C_2$ -form". There are 1 figure and 1 table.

ASSOCIATION: Kafedra fizicheskoy khimii (Physical Chemistry Department)

SUBMITTED: June 11, 1962

Card 2/2

S/189/63/000/002/001/010  
A057/A126AUTHORS: Kotov, Yu.I.; Tatevskiy, V.M.TITLE: Calculation of the power constants for the  $\text{NF}_2$  and  $\text{NF}_3$  moleculesPERIODICAL: Vestnik Moskovskogo universiteta, Seriya II, Khimiya, no. 2, 1963,  
3 - 5

TEXT: The system of power constants for the molecules  $\text{NF}_2$  and  $\text{NF}_3$  was calculated disregarding the difference of their power constants. The values for the basic frequencies  $\nu_1$  (A) and  $\nu_3$  (B) of the  $\text{NF}_2$  radical were taken from data published by M.D. Harmony et al (J. Chem. Phys., v. 35, 1961, 1,129). The molecule  $\text{NF}_2$  has three normal oscillations, which belong to two types of symmetry  $\Gamma = 2A + 1B$ . The  $\text{NF}_3$  molecule shows six normal oscillations two of which are twice degenerated  $\Gamma = 2A_1 + 2E_1 + 2E_2$ . Elements of the matrix of kinetic energy were calculated from literature data by means of geometric parameters presented in literature. A system of six equations with five unknowns was obtained by inserting the values of frequencies taken from literature into secular equations. The following power constants were obtained after approximative so-

Card 1/2

Calculation of the power constants for the ....

S/189/63/000/002/001/010  
A057/A126

lution (in  $10^6 \text{ cm}^{-2}$ ):  $K_q = 7.79$ ,  $K_\alpha = 2.35$ ,  $K_{qq} = 2.11$ ,  $K_{q\alpha} = 0.89$ ,  $K_{\alpha\alpha} = 0.14$ . A maximum difference of  $32 \text{ cm}^{-1}$  was observed by comparison of experimentally obtained and calculated (by means of the last mentioned power constants) frequencies of the  $\text{NF}_2$  and  $\text{NF}_3$  molecules. This coincidence is satisfactory considering that the difference of the power constants of  $\text{NF}_2$  and  $\text{NF}_3$  molecules was not taken into account.

ASSOCIATION: Kafedra fizicheskoy khimii (Department of Physical Chemistry)

SUBMITTED: June 2, 1962

Card 2/2

KOTOV, Yu.I.; TATEVSKIY, V.M.

Raman vibration spectrum of hydrazine ( $N_2H_4$ ) vapors. Opt. i  
spektr. 15 no.1:128 J1 '63. (MIRA 16:8)

(Hydrazine—Spectra)

(Raman effect)



L 42872-66 ENT(1)/ENT(m)/T/END(t) ~~YEL~~ IJP(c) ~~ID/WH/IN/CG/BA~~  
 ACC NR: AR6017231 SOURCE CODE: UR/C058/65/000/012/D031/D031  
 AUTHOR: Moskvitina, Ye. N. ; Kuzyakov, Yu. Ya. ; Kotov, Yu. I. ; Tatevskiy, V. M.  
 ORG: none  
 TITLE: Investigation of <sup>2/</sup>infrared <sup>2/</sup>spectra and spectra of the Raman effect of <sup>2/</sup>tetrafluorohydrazine <sup>2/</sup>  
 SOURCE: Ref. zh. Fizika, Abs. 12D249  
 REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964,  
 197-204  
 TOPIC TAGS: absorption spectrum, Raman effect, IR spectrum, absorption band,  
 tetrafluorohydrazine, hydrazine derivative  
 ABSTRACT: The infrared absorption spectrum of tetrafluorohydrazine (I) has been  
 investigated in the gaseous and the solid phase in the 400—4000-cm<sup>-1</sup> range. The  
 spectrum of the Raman effect has been obtained in the gaseous phase. Coincidence  
 Card 1/2

L 42872-66  
 APPROVED FOR RELEASE: 08/23/2000 — CIA-RDP86-00513R000825410020-9"  
 ACC NR: AR6017231  
 of oscillation frequency in the spectrum of the Raman effect with the oscillation  
 frequency in the infrared spectrum indicates that molecule I has a configuration  
 corresponding to the symmetry of C<sub>2</sub>. A preliminary interpretation of the absorption  
 bands has been proposed. [Translation of abstract] [NT]  
 SUB CODE: 0720/ ~~SUBM DATE: none/ ORIG REF: none/ SOV REF: none/~~  
~~OTH REF: none/~~

KOTOV, Yu.I.; KOPTEV, G.S.; PENTIN, Yu.A.; TATEVSKIY, V.M.

Infrared absorption spectrum of deuterated hydrazine vapors.  
Opt. i spektr. 15 no.4:564-565 0 '63. (MIRA 16:11)

KOTOV, Yu.I.; TATEVSKIY, V.M.

Vibrational Raman spectrum of gaseous tetrafluorohydrazine  $N_2F_4$ .  
Opt. i spektr. 14 no.3:443-444 Mr '63. (MIRA 16:4)  
(Hydrazine) (Raman effect)

KOTOV, Yu.I.; KOPTEV, G.S.; TATEVSKIY, V.M.

Calculating the vibrational frequencies of a hydrazine molecule  $N_2H_4$ . Vest. Mosk. un. Ser. 2: Khim. 18 no.3:10-13 My-Je '63. (MIRA 16:6)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.  
(Hydrazine—Spectra)  
(Spectrum, Molecular)

L 46293-65 EMI(m)/EPI(c)/EPR/ENP(t)/ENF(h) Pt-4/Ps-4 IJP(c)/RPL JD/WH/M  
 ACCESSION NR: AB5012231 UR/0058/65/000/003/D015/D019

SOURCE: Ref. zh. Fizika, Abs. 3095

AUTHOR: Kotov, Yu. I.; Koptav, G. S.; Tatevakiy, V. M.

TITLE: Calculation of force constants, frequencies, and forms of normal oscillations of the hydrazine molecule

CITED SOURCE: Tr. Komit. po spektroskopii, AN SSSR, vyp. 1, 1964, 125-133

TOPIC TAGS: hydrazine, deuterated hydrazine, vibrational spectrum, force constant, molecule normal vibration

TRANSLATION: On the basis of the obtained experimental data for deuterated hydrazine ( $N_2D_4$ ) and the published data on vibrational spectra of the hydrazine molecule ( $N_2H_4$ ), the authors calculate the force constants, frequencies, and forms of normal oscillations of the molecule of hydrazine.

SUB CODE: GP, OF

ANOL: 00

Card 1/1

ACC NR: AP6028536

SOURCE CODE: UR/0280/66/000/003/0066/0070

AUTHOR: El'ke, I. N. (Chelyabinsk); Pritsker, B. S. (Chelyabinsk); Kotov, Yu. S. (Chelyabinsk)

ORG: none

TITLE: <sup>160</sup> Object classification <sup>14</sup> by an automatic system with the operator participating

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 3, 1966, 66-70

TOPIC TAGS: mathematic space, pattern recognition, cybernetics, information processing, reading machine

ABSTRACT: A method of class division (in the context of the symbol and situation recognition problem), using the human operator's capacity for orientation in two- and three-dimensional space, is proposed. Information received from an object is recoded in the automatic system so that the operator can orient himself in the newly formed space. A block diagram of the classifying system discussed in this paper is shown in Figure 1. Operator 4 receives periodic information regarding the internal state of object 4. During the remaining time, these states

Card 1/2

ACC NR: AP6028536

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825410020-9"

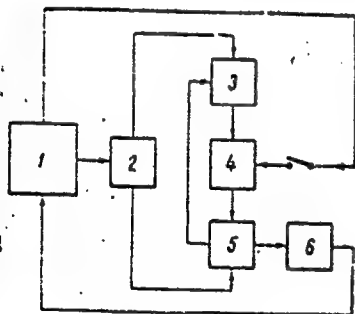


Figure 1. Block diagram of classifying system

are determined by "n" output quantities which reach mapping device 2, are recorded there, and fed to indicator 3 in the form of points in two- or three-dimensional space (a scope may be used as the indicator). At every moment that the internal state of the object is monitored, the operator transmits a point with a class index to the system memory 5. After studying the screen for a sufficiently long period of time, the operator observes a series of points of various classes and, sending the proper numbers to the memory, is able to draw a line (or, in 3-dimensional space, a surface) which will divide the classes. Further, the functional unit 6 determines to which of the classes the current point is to be ascribed and provides information to this effect, acting, if need be, on the object input in order

to bring it to the required state class. The selection of the mapping unit function and the problem of the memory volume of the classifying device are considered in some detail. Orig. art. has: 2 formulas, 1 table, and 4 figures.

SUB CODE: 0306 / SUBM DATE: 21Apr65/ ORIG REF: 003

Card 2/2

L 40204-66 EWT(d)/EMP(c)/EMP(v)/T/EMP(k)/EHL(1) LJP(c) RH  
ACC NR: AP6030053

SOURCE CODE: UR/0114/66/000/004/0002/0008

AUTHOR: Polishchuk, V. L. (Engineer); Orlov, M. D. (Engineer); Chernin, Ye. N. (Engineer); Reznichenko, V. Ya. (Engineer); Kotov, Yu. V. (Engineer); Bodrov, I. C. (Engineer); Yamalutdinov, I. T. (Engineer); Ol'khovskiy, G. G. (Candidate of technical sciences)  
ORG: none

TITLE: Results of testing first model and series examples of gas turbines GTN-9-750 of Leningrad Metallurgical Plant im. XXII CPSU Congress

SOURCE: Energomashinostroyeniye, no. 4, 1966, 2-8

TOPIC TAGS: gas turbine, pipeline, centrifugal pump, electric power production, turbine design, turbine compressor/GTN-9-750 gas turbine, NG-280-9 centrifugal pump

ABSTRACT: A description of the testing of the 9000 kw GTN-9-750 gas turbine, designed to drive the NG-280-9 centrifugal pipeline pump, used on the Bukhara-Ural gas pipeline. The tests showed that the actual power produced in operating conditions is 8,750 kw, efficiency 25%. The maximal power produced without additional equipment and regenerators is 9600-10,000 kw. The characteristics of the main elements of the turbine were found to be near the design characteristics: the adiabatic efficiency of the compressor is 89%, the low and high pressure turbine sections operate at 85% and 89-90% efficiency. Long-term testing with repeated stops and starts showed that the unit as modified from the prototype is suitable for operation in the gas pipeline system. Orig. art. has: 5 figures, 7 formulas and 3 tables.

[JPRS: 36,501]

SUB CODE: 13, 10 / SUBM DATE: none / ORIG REF: 002

Card 1/1

UDC: 621.438.001.41

APPROVED FOR RELEASE: 08/23/2000

KOTOV-KHROMENKO, V.O.

Role of the signal systems in the evaluation of the past among children of middle school age. Nauk. zap. Nauk.-dosl. inst. psikhol. 11:29-32 '59.  
(MIRA 13:11)

1. Gosudarstvennyy universitet im. I.I.Mechnikova, Odessa.  
(Time perception)

EL'KE, I.N.; BRAGIN, A.G.; KOTOV, Yu.S.

Control of heat conditions in soaking pits. Stal' 22 no.4:362-  
364 Ap '62. (MIRA 15:5)  
(Furnaces, Heating) (Temperature regulators)



USHAKOV, G.I., inzh.; KOTOVA, A.A., inzh.

In favor of creating special factories of knitting yarns. Tekst.prom.21  
no.1:5-7 Ja '61. (MIRA 14:3)

(Yarns)

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Monograph

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Mathematical patterns of excitation (Matematicheskiye modeli vozbuzhdeniya)  
Kiev, Izd-vo "Naukova dumka" 65. 0146 p. illus., biblio. (At head  
of title: Akademiya nauk Ukrainskoy SSR. Institut kibernetiki) 2,000 copies  
printed.

TOPIC TAGS: cybernetics, mathematic model, tissue physiology, muscle physiology,  
myology, neurology, nervous system

PURPOSE AND COVERAGE: The book discusses the properties of elements of nervous  
and muscle tissue by constructing mathematical models. A simple mathematical appara-  
tus is used for constructing the models. The book is intended for biologists,  
engineers, mathematicians, and doctors interested in using cybernetic methods for  
the analysis of living tissue. 16C

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